



Some information about Italy and Italian mountain forestry

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ALPINE RESEARCH CENTRE of the University of Tuscia

Administrative Unit of the University of Tuscia, including teaching and research facilities, located in the Tesino plateau (Trento province, Italian Alps-Dolomites)





UNIVERSITÀ DEGLI STUDI DELLA Tuscia

OUR NUMBERS

- 644 members of staff

(82 Full Professors; 101 Associate Professors, 106 Permanent Assistant Professors, 33 Temporary Assistant Professors; 320 Technical and Administrative;)

- 7000 students
- 16 Bachelor's Degrees
- 13 Master's Degrees
- 6 PhD courses



DIBAF-Dept. Innovation Biotech Food & Forestry

SCIENTIFIC & TECHNOLOGICAL INNOVATION

BIOTECHNOLOGY



ENVIRONMENT
&
FORESTRY

AGRO-FOOD
SCIENCES



LANDSCAPE
CULTURAL
HERITAGE



PhD Program: Science of Sustainability

Coordinator: *Prof. Mauro Moresi*

The DIBAF Doctorate School offers three different curricula



- **AGRO-FOOD TECHNOLOGIES:**

The course was developed to improve the skills of graduates in research areas closely related to environmental topics



- **BIOTECHNOLOGY:**

The course was developed for research on fundamental and applied aspects of conservation, processing and evaluation of food.



- **FOREST ECOLOGY & ENVIRONMENTAL SCIENCES:**

The course was developed to study the forest ecosystems, in the context of high quality research programs.

The **Alpine Research Centre** provides support for:

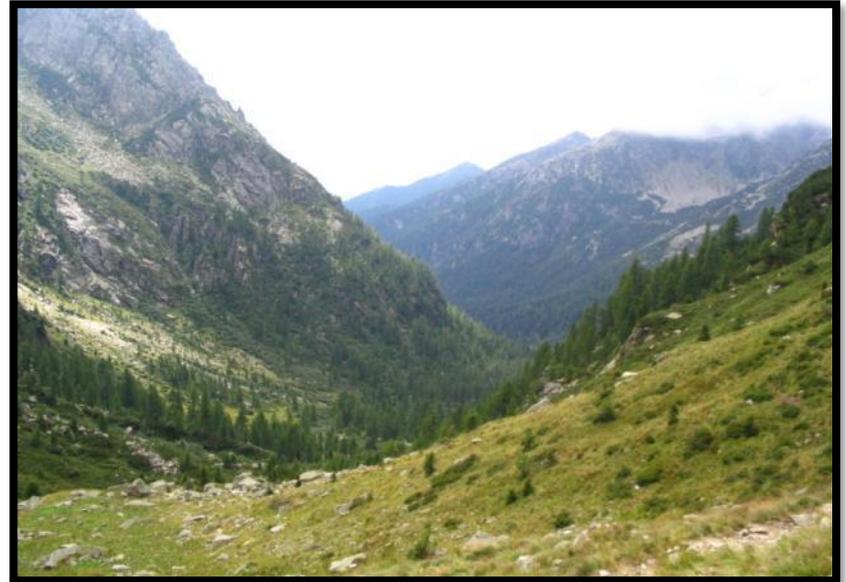
- practical training of forestry students;
- experimental activity within the preparation of graduate and PhD thesis;
- scientific and technological research;
- summer schools, seminars, workshops and conferences;
- technical, scientific and practical collaboration to the management and development of the Tesino Arboretum.



Natural environment in Tesino

The Tesino plateau (900 m a.s.l.) is surrounded by calcareous and granitic mountains.

The highest peak is the Cima d'Asta (2850 m s.lm.).





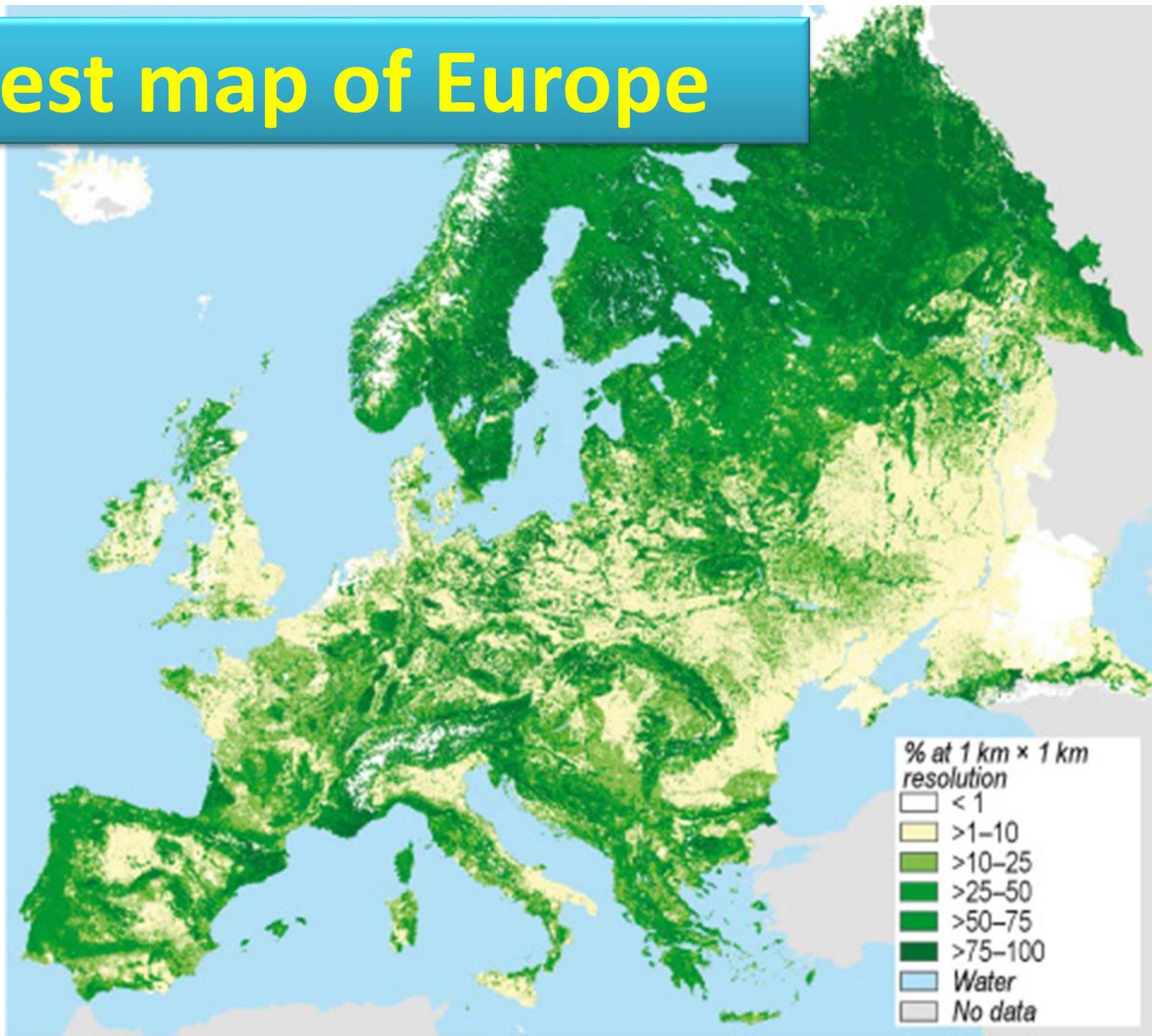
Slopes are covered with typical alpine forest dominated by beech, silver fir, spruce and larch.



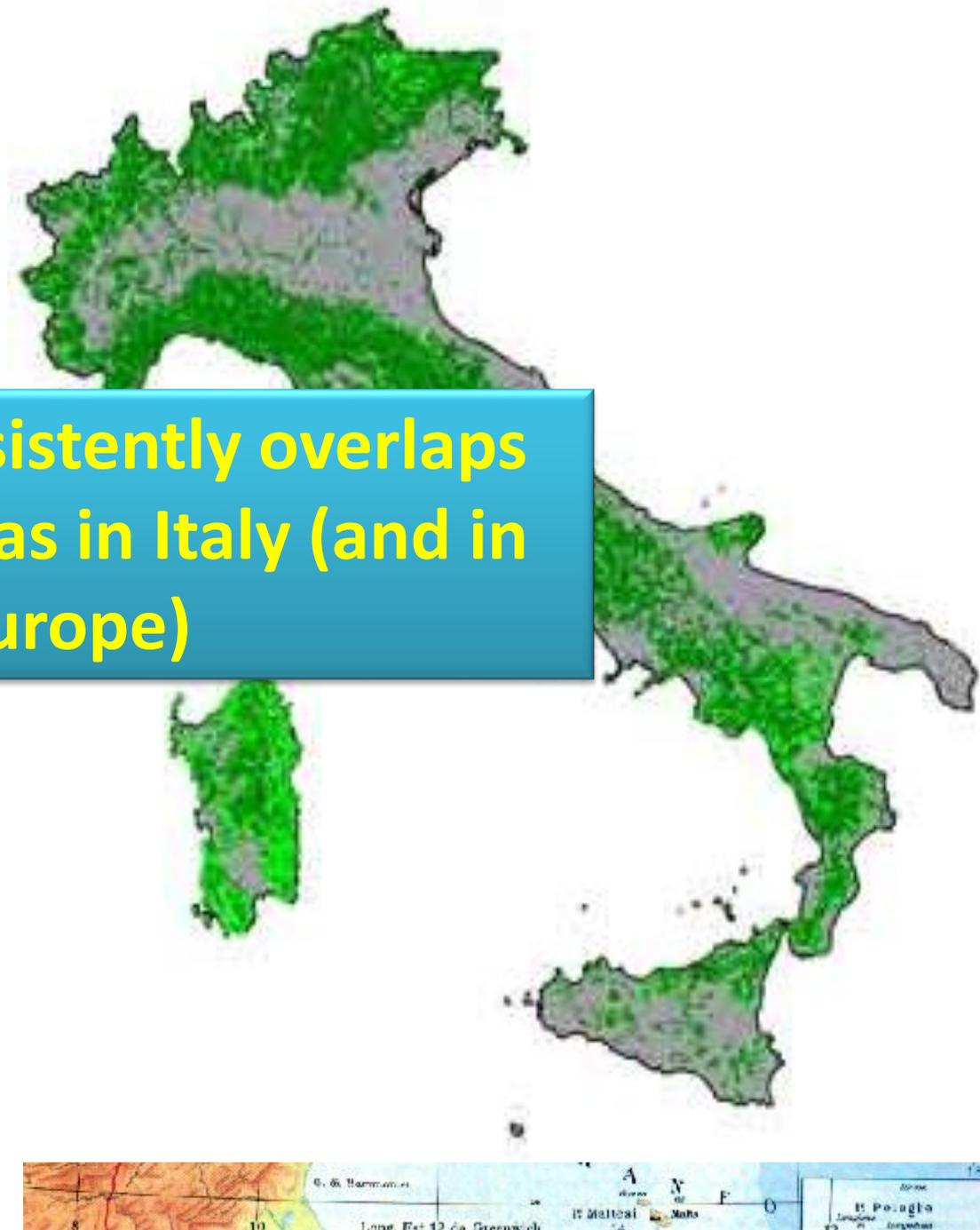
A large area of pastures and meadows extends above the timber line where some small glacial lakes are located. The scarce presence of tourist infrastructures accentuate the wilderness character of the environment



Forest map of Europe



Forest surface consistently overlaps with mountain areas in Italy (and in South Europe)



Some facts about Italian forestry

- Italian forests are
 - large latitudinal and altitudinal range (from 35°N, in Sicily, to 47°N in the Alps)
 - more than 200 tree species (including Mediterranean species)
 - 100 forest types (including 100 tree species)
 - Italy has reported the presence of the European spruce (*Abies*)
 - coevolution and conservation activities



Italian Renaissance Architecture

- Land introduced Roman *semp*
- In Sicily, Copp XIII d recor plans

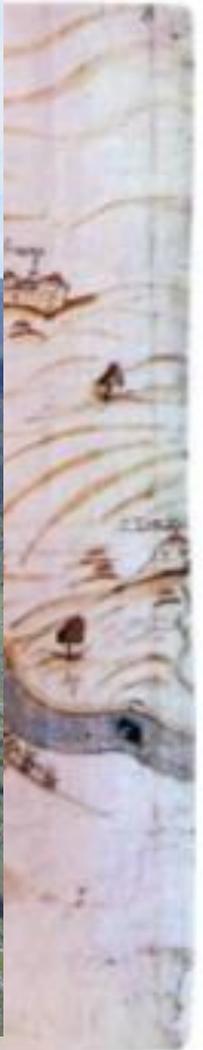


Italian forestry rich of history/2



spruce as

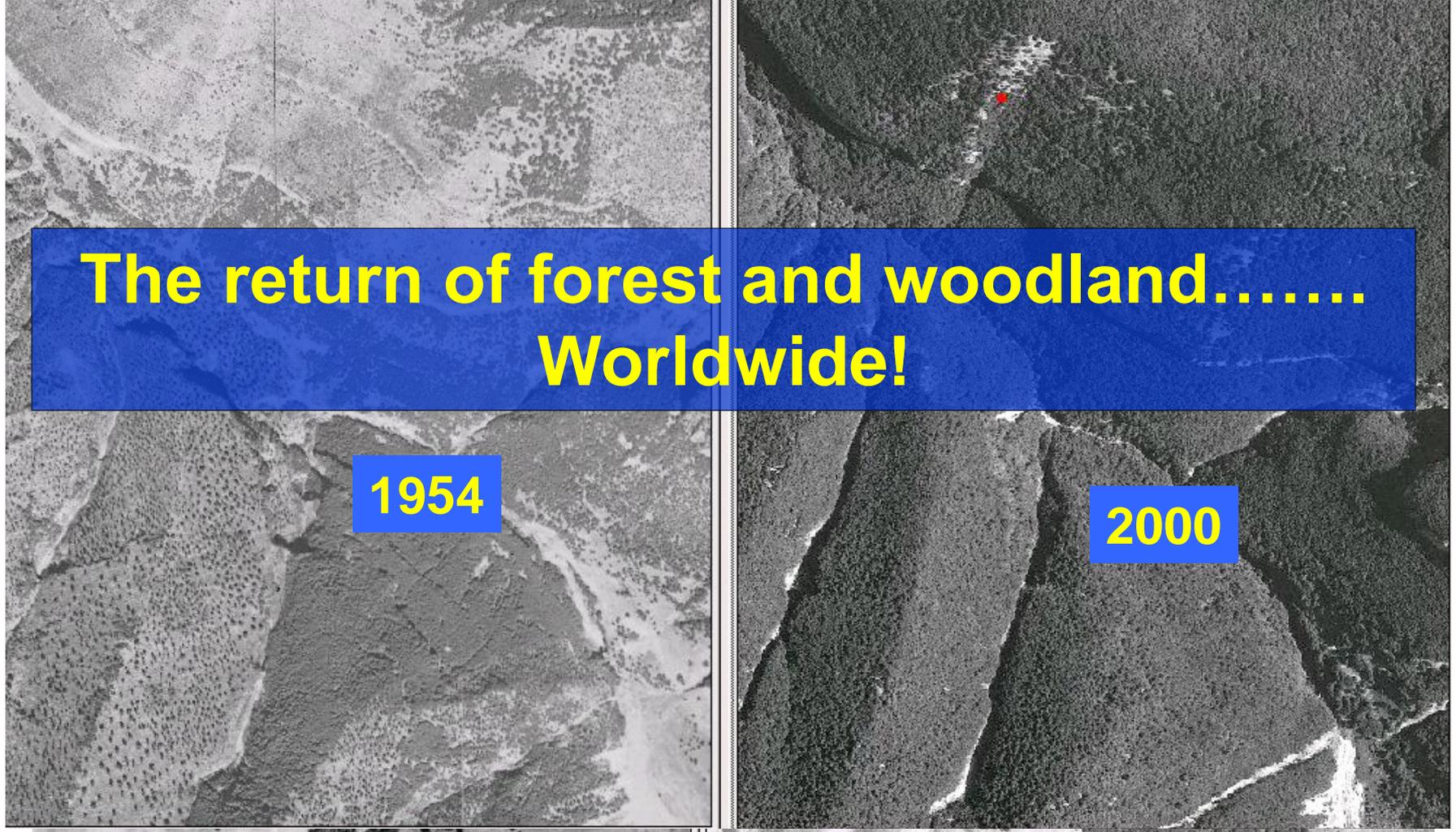
Italian forestry



PROVE

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Forests in Italy (and EU): a dynamic



In Europe forest C-absorption offsets C-emissions from agriculture

Table 1. Net biome productivity in forest, agricultural, and peat sectors. Positive fluxes mean net uptake; negative is net loss of C. Numbers within parentheses represent one standard deviation. For each ecosystem, the total area is also given.

	Area (Mha)	NBP (Tg C a ⁻¹)	Ref. nos.
<i>Forest sector</i>			
Grasslands	151 (36)	101 (133)	(15, 24)
Subtotal		-199 (229)	
<i>Peat sector</i>			
Undisturbed peat lands	39 (6)	13 (7)	(28–30)
Drained peat lands	16 (4)	-30 (15)	(29–31)
Peat extraction		-50 (10)	(29, 30)
Subtotal		-67 (19)	
Total		111 (279)	

Forest C-sequestration accounts for 10-20% of European C-emissions

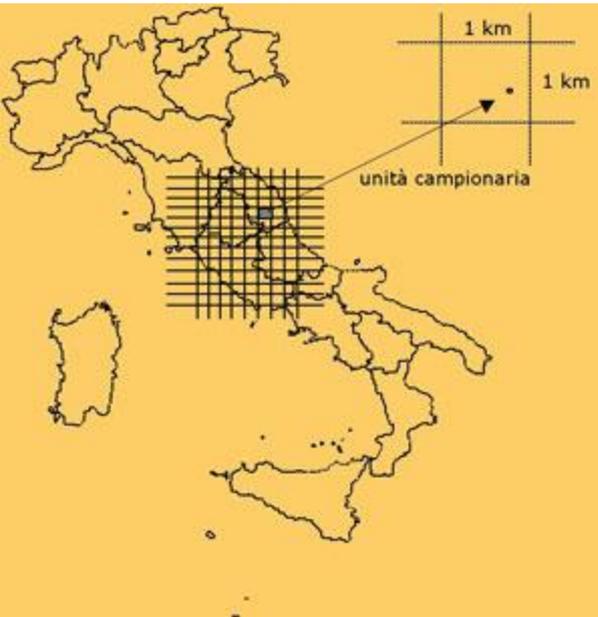
But: large uncertainties!

Emissions from fossils = -1850 Tg

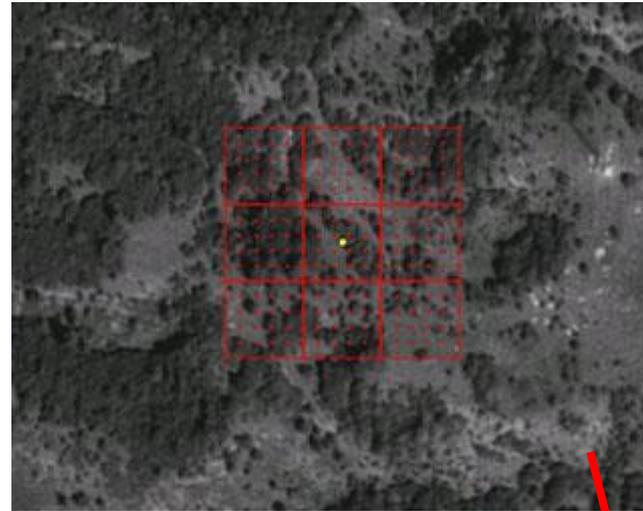
geographic Europe (up to Urals)

Janssens et al. (2003)

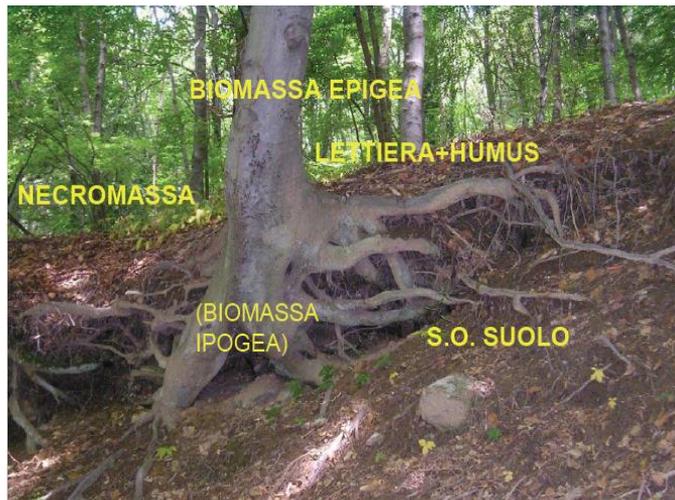
Italian Inventory of Forests and Carbon-INFC



Step 1
300,000
points

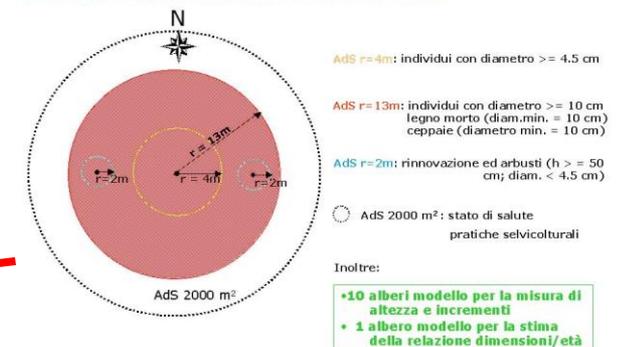


Step 2
30,000
points

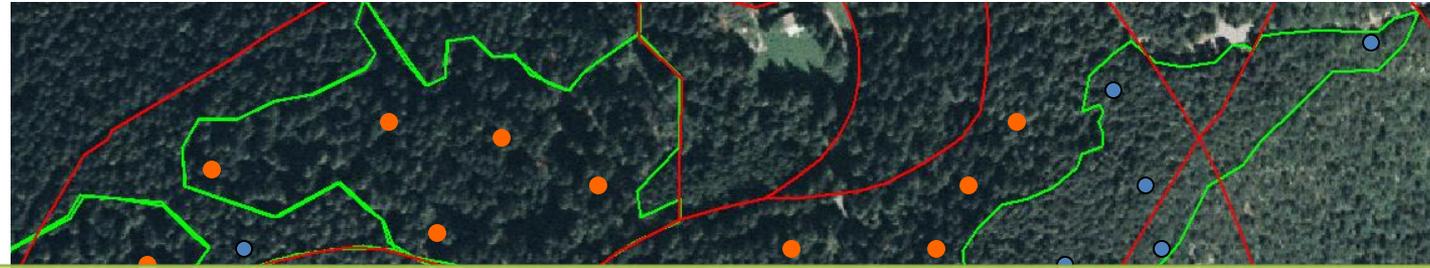


Step 3: 7,000
points on
biomass (step
3+ 1,700
points on
Soil-C)

CONFIGURAZIONE DELLE AREE DI SAGGIO DI FASE 3



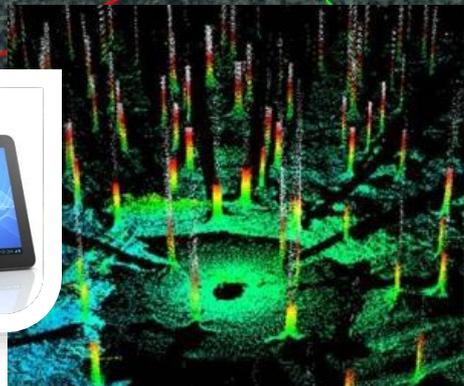
Project ALForLab: ForestWoodEnvironment Value Chain



ICT applied to forest sustainable management, inventory of ecosystem services, and wood mobilization



Informatica forestale, mobile e desktop GIS



LiDAR- terrestre

Fotogrammetria con droni

